

NOVEMBER/DECEMBER 2025

**23UMB11 — FUNDAMENTALS OF
MICROBIOLOGY AND MICROBIAL
DIVERSITY**

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Define Biodiversity.
2. What are prokaryotes?
3. Tell about Spores.
4. List out the examples of algae.
5. What is selective media?
6. Define anaerobes.
7. List out the principle of Simple microscope.
8. Tell about objective of capsular staining.



9. Define sterilization.

10. What are antimicrobial agents?

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Summarize the history of microbiology.

Or

(b) Classify three kingdom classification of Microorganisms

12. (a) Compare the difference between prokaryotic and Eukaryotic organisms.

Or

(b) Outline the structure of Flagella

13. (a) Explain the pour plate method.

Or

(b) Classify the types of culture media.

14. (a) Explain about Phase contrast microscope.

Or

(b) Summarize simple staining.

15. (a) Classify the principle and procedure of Hot air oven.

Or

(b) Summarize about membrane filter.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Discuss in detail about Eight kingdom classification.

17. Elaborate the structure of Bacterial cell wall

18. Explain in detail about pure culture techniques.

19. Discuss about TEM.

20. Elaborate antimicrobial agents.